VU VRIJE UNIVERSITEIT AMSTERDAM

VU Research Portal

Perceptual Grouping of Complex Objects in the Primate Visual System

Jeurissen, J.J.D.M.

2016

document version
Publisher's PDF, also known as Version of record

Link to publication in VU Research Portal

citation for published version (APA)
Jeurissen, J. J. D. M. (2016). *Perceptual Grouping of Complex Objects in the Primate Visual System*. [PhD-Thesis – Research external, graduation internal, Vrije Universiteit Amsterdam].

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:
vuresearchportal.ub@vu.nl

Download date: 04. May. 2023

4 Serial grouping of 2D-image regions with object-based attention

Contents

So far, the experiments in this thesis have focussed on how figure-ground segregation is accomplished through interactions between lower and higher areas in the primate visual system. However, if we want to know how we perceive objects and perceptually group the elements of an object together in such a way that we can use it for a behavioral response, we will also need to understand how the attentional selection of an object is established. The attentional perceptual grouping process is a relatively slow, incremental process, but its exact time-course remains unknown. In this chapter we present the neurocomputational *growth-cone model*. This model takes into account that visual areas higher in the visual hierarchy have larger receptive field sizes and can thereby contribute to a fast perceptual grouping process. The output of the model is validated against other models by comparing it to the behavioral data of human participants. The experiments in this chapter aim to answer RQ5 and RQ6.